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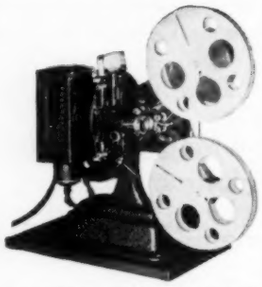

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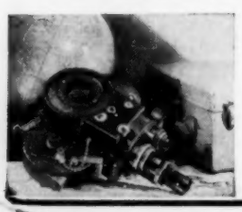

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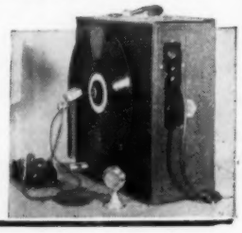

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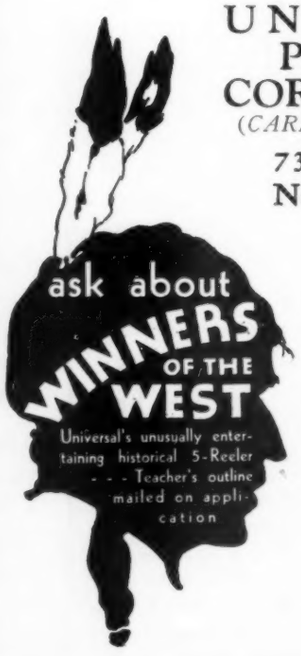
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The Functions of a City Department of Visual Aids

ARNOLD W. REITZE

A WELL organized department of visual aids has many and varied functions in connection with the regular grade classes and the many special classes and departments within a school system, and in addition a number of functions which seem to belong solely to the department of visual aids.

The Primary Function

The primary function of the department may be briefly stated as: To supply any teacher from the kindergarten through the high school with the proper visual aids at the time when they will be most helpful as teaching devices.

The department is chiefly concerned with the work affecting the largest number of pupils. It should be organized and principally function around the regular classroom work. As this phase of the work is perhaps the best known, it has not been discussed at great length in this study. However, the department can furnish much valuable material to the teachers of the regular grade subjects of geography, history, science, civics, nature study, health, language, and other subjects.

Numerous Other Functions

In addition to the function of supplying the regular class teacher with visual aids, the department has many functions in connection with the special classes and departments within the school system. A number of these functions are presented in this study.

The department should prove a valuable asset to the art and drawing department as practically every lesson involves the use of visual aids. Many of these, including charts, films, slides, models, pictures, and posters, dealing with the work of great artists can be supplied by the department. Films can be furnished showing artist at work on paintings, sculpturings, and other similar activities. The department can also co-operate in arranging trips to museums and art studios.

There are a number of visual aids which the department can furnish for the use of the classes of foreign born pupils. These include lantern slides, which can be used as an aid in word study, as is done in the primary grades. In addition, numerous charts, films, and pictures dealing with citizenship, history, patriotism, and the operation of city, state, and federal government can be supplied. There is a possibility that with the further development of sound motion pictures these may be of value in teaching both the English language and the subject matter of the film.

The department can be of exceptional value to the continuation school classes as many of these students are of the type who cannot readily assimilate knowledge through the use of books or by the usual classroom methods. Films, pictures, and slides dealing with the many fields of business, trade, and industry can be supplied by the department to arouse the interest of these pupils. With this material much can be taught in a relatively short period of time. As time is an important factor in these classes, this material should be of real value. Class visits to industries can also be arranged.

The department can supply valuable material for the domestic science classes. In these classes there is much related information which it is desirable to teach. In order to have a well rounded course, a girl should have some background regarding the growing, packing, and marketing of the important food products. This can be effectively taught through visual aids, including, class visits to local food packing plants, markets and bakeries.

In the field of educational and vocational guidance the department can be of real service. For special classes of guidance a complete program of visual aids can be supplied. Visual aids on guidance can also be supplied for use in the regular classes. The department can furnish much educational guidance material, such as, films dealing with the various branches of special or higher education carried on by the city and films dealing with colleges and special types of schools.

In conjunction with the health program carried on in the schools, the department can supply charts, films, pictures, and posters dealing with all phases of health. This includes visual material of the health, medical, and sanitary work of the city. The department can

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Editor's Note: This is the second of a series of articles based on a Master's thesis prepared for New York University entitled, "The Organization, Functions, and Administration of a City Department of Visual Aids."

also circulate visual aids dealing with fire prevention and safety work.

A department of visual aids can be extremely useful to the industrial, technical, and vocational departments. These departments require much related information dealing with raw materials, industries, and finished products. Much of this information can be most effectively presented through the use of visual aids supplied by the department. The department can also arrange for class visits to industrial plants.

There are various aids which the department can furnish the music department, including song slides and various kinds of music charts. Films dealing with the lives of the great composers can be furnished for the advanced students. With the sound film it is possible to show and hear the works of the great composers as played by the leading orchestras of the world. There are also films dealing with the orchestral work of the individual instruments or groups of instruments.

The functions of the department in relation to the special classes and departments in a school system which have been briefly presented are but some of the many important functions. There are many other fuctions and many other ways in which the department can be of value to the special classes and departments.

Teacher Training

One of the functions which seem to belong solely to the department of visual aids is the training of teachers in the proper technique of using visual aids and equipment . This is one of its most important functions, as the whole success of visual material is based on the ability of the teacher to effectively use the aids. This function may be a cooperative one in cities which have a training school for teachers and a training program for teachers in service.

Teachers may be trained in the proper use of visual material through a regular college course or through short courses conducted by the department. Another method is to train, at the visual aids center, certain teachers from each school, who pass the information along to the other teachers in the school. This can be done by giving demonstration lessons to this group of teachers, and having them give similar demonstrations in their school. In addition, general meetings can be held to discuss and demonstrate certain basic principles. A training course for teachers should be basic in nature and should not be extremely technical. It should include a brief discussion of the educational and psychological value of visual aids, the types of aids, the selection and use of certain aids, and the testing and checking of the results from using visual aids. Teachers should also be instructed in the operation and care of projection apparatus. Such instruction may be a requirement for the use of the department's equipment. It might also include certification of the teacher by the department. In addition, much information can be given through various printed bulletins issued by the department.

Testing, Selection, Standardization of Aids

All aids and equipment should be carefully studied by the department and their apparent value as teaching devices should be kept on file. All aids and equipment should be given a thorough try-out. This can be done in test schools where the equipment can be tried out under actual classroom conditions. It is important that these schools be representative of the schools throughout the city.

Another function of the department is the selection and standardization of equipment. One method is to carefully examine and evaluate each type of equipment and then select one or two of each as standard. This is the type which is then placed in the schools. With this method, the equipment is usually purchased by the department and placed in the schools on a loan basis. Another method is to study the various aids, and place on an approved list, those which meet the standards of the department. Each school is expected to acquire its own equipment which is to be selected from this list. With another method, each school can acquire any kind of projection apparatus and use the aids circulated from the visual aids center. Certain departments circulate the equipment as well as the aids, which, needless to say, is not very satisfactory, as projection equipment is not well adapted to transportation. The plan for standardized equipment, purchased by the department and placed in the schools on a loan basis seems to be the most desirable method, all factors considered.

Acquisition and Care of Materials

The acquiring of the various visual aids is an important function of the department. There are many sources from which visual aids may be obtained. As complete a list of these sources as possible should be kept on file. This file can be divided into three sections and each section subdivided according to the type of aid. One section should list material which can be obtained free or at the cost of packing and shipping; another section should list material which can be obtained on a rental basis; and another section should list aids which can be purchased. As complete a set of the free material as possible should be ob-

tained by the department. This can be used to show the schools what they can acquire for their own use; they can be circulated, and they can be used as models, by the department, in preparing exhibits. The rental material can be used to determine whether it is worthwhile for the department to purchase. Material can be rented and tried out to determine its value. Such material as can be obtained only through purchase, should be studied carefully and if possible tested in the schools before it is bought. Much pictorial can be obtained from magazines, which can be acquired free or at small cost. The criterion of any visual aid is its educational value and unless an aid can meet this criterion it should not be acquired.

The department is responsible for the condition of the various aids and equipment. The aids should be carefully checked upon return from the schools and all necessary repairs made. Equipment should be given a periodic examination and the schools should be required to report immediately any machine which is not functioning properly. No school should be allowed to make any repairs or adjustments. Extra machines should be at the visual aids center which can be sent to the school to replace any machine which needs repairs.

Relating Visual Aids to Course of Study

Another important function is the relating of the various aids to the course of study. To be of the most value visual aids must be connected directly to the subject being taught. The department must arrange the material so it can be used most effectively. One method of doing this is through the use of committees for each grade and subject. These committees, composed of the leading teachers and possibly certain supervisors, act in an advisory capacity relative to the purchase, organization, and use of the aids in their subject and grade. One method of relating the various aids, to the course of study, is to arrange each type of aid into sets directly related to the subject or grade. These sets should contain only material directly related to the subject and they should be kept down to a maximum number of individual units.

Supervision of Use

The supervision of the use of the visual aids is also a function of the department. On the whole, supervision should be general for groups of teachers, principals, or special supervisors. Supervision should be limited to teacher training, demonstration lessons, the opportunity of observing classes taught with various aids, and assisting teachers in selecting the best aids. The department should work in co-operation with the various supervisors, rather than attempt to supervise the individual teacher. In this connection, the department can co-operate in preparing films, possibly with sound, dealing with the technique of teaching various subjects.

Additional Functions of the Department

The department can give much help in the matter of school publicity. Publicity concerning the activities of the schools is often neglected and too frequently the taxpayers know little of what is being done in the schools. The department of visual aids can do much to remedy this situation. The activities of all branches of the school system can very effectively be shown in pictorial form, particularly through the motion picture. The department can also keep a pictorial record of all important educational and civic events in the city.

The department can assist in the organization and presentation of special programs. These programs may include films, pageants, and dramatizations for holidays or special celebrations. The department can co-operate with certain civic organizations in presenting programs of an educational nature. The department can also arrange for material of a purely entertaining nature for the schools and it can issue a weekly list of recommended films for children.

The department must formulate tests and checks of various kinds to determine the effectiveness of the aids. These tests can be used to decide the relative value of each type of aid and in turn can be used in apportioning the budget. Rating or score cards for determining the value of certain aids must also be formulated. As few of these tests or rating forms are available it is necessary for the department to originate them. The department must carry on investigations and research covering the effective use of visual aids, better methods of using the aids, means of acquiring and devising new aids, and methods of filing, listing, checking and evaluating aids.

The department should have a complete file of catalogs and descriptions of the various aids and equipment. Such a file is indispensable in preparing specifications, comparing types of equipment, and in preparing talks and bulletins to be presented to the teachers. There should be a library, at the visual aids center, covering the field of visual aids in education. This is needed to study ways and means of improving the work of the department. The department should be an information bureau for all branches of the school system on matters pertaining to the use of visual aids.

In co-operation with the various supervisors the

(*Concluded on page* 45)

The Sound Film in Education

E. J. NALLY, JR.

SINCE the day that the stubby hand of that unknown Cro-Magnon artist sketched in polychrome a surprisingly life-like bison on the walls of a cave in what is now southern France, man has constantly added to his fellow man's knowledge through pictures of the life and happenings of the age in which he lived.

Framed by brilliant blues and reds that centuries have not faded, frescos on the walls of smothered Pompeii admirably reconstructed for the student of today the civilization of a long dead past.

On manuscripts of the finest uterine vellum, jewel-like miniatures recapture the gorgeous pageantry of the Middle Ages and the Renaissance. Costly as these manuscripts were, the urge for knowledge was so great that the scribes used half the goose quills in Christendom in their efforts to meet the demand, and literally thousands of folios were produced. Swiftly as the Black Death spread this lust for knowledge among the common people. The fifteenth century attempted to satisfy this yearning by printing on flimsy single sheets from crudely carved blocks of pear wood, religious and secular scenes which could be readily understood by the illiterate public. Not long after, the rush-strewn halls of countless monasteries echoed with expressions of wonderment from the sandal-shod monks at the contrast of Guttenberg's jet black ink against the virgin white pages of the hand made paper used in his magnificent forty-two line Bible. The rumble of this first press has been magnified into a mighty roar down the ages, to the eternal enrichment of mankind's store of knowledge.

Man's ingenuity has captured the ephemeral and elusive spirit of his age with paint and oil, graver and steel, acid and copper, chalk and stone, nitrate of silver and cellulose. By the means of these methods our common heritage of culture has been broadened and expanded until even the humblest may enjoy what was formerly destined for wealthy alone. The barriers of creed and color have been destroyed—the obstacles of physical geography have been leveled—the confusion of foreign tongues surmounted so that the student of today may survey the panorama of world without leaving the hall of study. The muddied perceptions which our great grandparents laboriously derived from the words of their preceptors and the somewhat turgid text books available, can, by the catalytic agent of the visual aids of today, be transmuted into crystal clear mental experiences within the easy reach of modern youth.

To such mental adventurers as Scheele, Farrup and Wedgewood is due the undying gratitude of generations yet to come. For handicapped as they were by clumsy tools, scanty and inaccurate laboratory equipment, their keen minds overcame these physical obstacles and, as a result of their several investigations, the process that we know today as photography came into being.

The insatiable curiosity which characterizes youth has been a trial at times to parents and a challenge to the ingenuity of teachers. The handmaidens of photography — photographic engraving, photo-lithography and the rotogravure have, by their vivid appeal, added more to the factual knowledge of these young inquisitors than a thousand involved explanations. The fortuitous combination of visual and aural appeal give the child a mental picture which only actual experience can duplicate or surpass.

The stereopticon, the stereoscope and their variations have illuminated countless school rooms with vignettes of life. The thin pointer in the hand of the teacher has probed, by means of the reflected image on the screen, into the organized tumult of our factories, the vast complexities of agriculture, the picturesque disorder of the studied precision of life in foreign lands. The complacent insularity of a static existence is shattered by these vistas. The finger of the classroom can, by its mere reaching, touch the pulse of the world and record for its own satisfaction and information, the powerful beats of commerce, industry, culture and all that goes to make up the world in which we live.

The creation of ancient structures in miniature, revitalizing antiquity, the eternal joy of creating with one's own hands, the molding in sand and clay, the drawing with paint and water, are such powerful teaching aids that scarcely a school in all the world does not utilize at least one or more of these methods to assist the teachers and text books in their cultural efforts.

The thousands of mutations made in photography, which germinated in the brains of later-day scientists, captured countless moments of world life for the edification of mankind in general. Yet, man was not

satisfied, for after all the still-picture explanation before him stood for but a single segment of events which were preceded and followed by many others —germane to the portion he possessed. How to animate the static scenes and figures which he had captured on plate and film was the problem.

Monuments to man's genius are seldom erected by a single hand, and the discovery of the motion picture is no exception to this general statement. As far back as 1864, a visionary Frenchman named Ducros patented a photograph theory which took advantage of the retentiveness of the retina of the human eye to give the illusion of moving pictures. Later inventors christened their brain-children "Phenakistoscopes," "Zoogryoscopes", "Zoetropes" with all the enthusiasm of discoveries in the field of animating the inanimate.

The sporting proclivities of a pioneer Californian, Senator Leland Stanford, coupled with a serious conviction that a trotting horse at one point in its gait left the ground completely, were behind one of the first serious attempts at motion picture photography. To the enrichment of the senator's purse and to the eternal glory of Edward Muybridge, this fact was proved to the satisfaction of even the most skeptical rail-birds. Muybridge placed a number of cameras, equi-distant from each other along the straightaway. Delicate threads connected with the shutter mechanism were stretched across the track so that as the body of the horse came in contact with the threads an exposure of the plate was automatically made. When the series had been developed, the movement of the animal could be reconstructed in its entirety.

No brief history of the motion picture could be made without mentioning the name of Thomas Edison whose inventive genius gave the world the first practical motion picture camera. The highly sensitized fine grained emulsion on film produced by the experts from the Eastman laboratories played an important role in this development. Scattered installations of this equipment were made with the result that the public took this new form of visual entertainment to its collective heart and the Nickelodeons of the land echoed with the audible enthusiasm of the patrons.

During the last decade, educational institutions throughout the world have taken an increasing interest in the application of technical and scientific discoveries to their methods and curricula. The antiquated "red school house" is rapidly being replaced by architectural triumphs in steel and stone, with the finest fittings and modern equipment. Coincident with the change of the physical appearance of the school, was an evolution in the classroom which would have startled educators of the last century. The inanity of learning by rote has been replaced by the individual treatment of a student, which has made vital and alive the subjects occupying his time and attention. To do this, every resource at the command of the modern educator has been brought into play—highly trained teachers, modernized school books, scientific equipment and countless emanations from the research laboratory.

No longer does the harassed teacher or professor need to visualize for the student the perception he should gain from the subject itself. The mechanical age of the printing press, lithograph, stereopticon and the motion picture makes it possible for the student to form his own perception.

The total amount spent by city and state bureaus for visual education in the United States during the last seven years ran well over five million dollars. In large cities such as Pittsburgh, Los Angeles, Detroit, St. Louis, sums ranging from sixty to one hundred ten thousand dollars are annually expended.

Teacher training classes for visual education are now available in seventy-one Normal Schools, State Colleges and Universities. Although the brunt of popularizing and supplying visual aids was borne by State and City bureaus, there is a trend toward the organization of units which independently service smaller cities and towns.

The advent of "sound" injected grave complication into the progress of visual education. A great quantity of educational silent film had been produced, both on standard 35 mm. and also 16 mm. Much of this film was the product of large foundations and various departments of the U. S. government. Naturally with so many producing forces and with so many self-appointed authorities on the proper presentation of educational material in films, there was a wide divergence in the quality. Production of educational films largely ceased as technical forces strove mightily to iron out the difficulties coincident with this new development. Educators cautiously refrained from indiscriminate approval until it had been proven to their satisfaction that the addition of sound to the motion picture was not a transient novelty, but a real force which required serious consideration on their part.

The burden of development rests jointly on the shoulders of commercial film producing companies and institutions especially endowed and equipped for research. The former, though motivated by less altruistic aims, are alive to the possibilities which the school field presents. The latter are prepared to devote time and money to effect the full florescence of this potent educational force.

Another powerful factor which presented a serious obstacle to the rapid utilization of sound in the school was the sound reproducing equipment itself. During the early days when the whole art was surrounded with a species of mumbo-jumbo which made the mysteries of the Black Mass pale into insignificance compared to it, the sums demanded and received for the installation of sound reproducing equipment in theatres would have awed any educator into a state of insensibility. Manufacturers are now marketing equipment at a more moderate figure which is well within the financial means of a large percentage of the educational institutions on this continent.

As a change from generalities, examine the following figures. There exist at this time close on to four hundred sound films produced solely for the consumption of the educational market. They run the gamut of subjects from Astronomy to Zoology. The majority of these films were directly supervised by important figures in the field of education and have been generally accepted as being valuable pedagogic contributions. The United States Government is also actively engaged in the production of educational sound films which will cover the many phases of departmental activity.

The limited number of installations of sound reproducing equipment in schools has hitherto precluded the possibility of making any exhaustive and comprehensive tests, embracing large numbers of students from widely divergent localities. However during the past year interesting tests were made both in England and in the United States.

Under the patronage of the president of the United States, the governors of the forty-eight states were invited to participate in a comprehensive test of the educational values of the sound film in public school education. The Fox Film Corporation, through whose courtesy these figures are quoted, arranged for the test to be held at George Washington University. From each state, including the District of Columbia, a boy and girl of grammar school age was selected. Since several alternates were included in the boys' section, their number amounts to fifty, whereas only forty-seven girls participated as one of the representatives did not attend all the tests.

The following films were shown:

1. One-reel picture, *Toads,* by Dr. Clyde Fisher, Curator of University, College and Adult Education, The American Museum of Natural History.

   This picture presented Dr. Fisher in a three or four-minute lecture in which he introduced the subject. This was followed by a series of pictures showing the development of toads through their life history, the pictures being accompanied by a running comment by Dr. Fisher.
2. One-reel picture, *Monarch Butterflies,* by Dr. Clyde Fisher.

   This picture was similar to the one on toads in that the subject was introduced in a preliminary lecture and the life history of a monarch butterfly was then shown through a series of pictures, the comments and explanations by Dr. Fisher continuing throughout the film.
3. Three-reel picture, *Volcanoes,* by Dr. Atwood, President of Clark University.
4. Three-reel picture, *Glaciers,* by Dr. Atwood.
5. Four-reel picture, *River Valleys,* by Dr. Atwood.

   These three pictures by Dr. Atwood show him giving blackboard demonstrations of his subject with now and then inserts of illustrative material concerning famous glaciers, volcanoes, and river valleys. These pictures are thus a combination of lecture and illustrative material.

The demonstration period extended over a period of four days. On the first day an initial test was given covering these subjects. On the three following days the children saw the five sound films—two the second day, two the third day and one the fourth day—and immediately following the showing of the films the tests were repeated.

The following results were tabulated.

1. The boys had considerable higher scores on the initial tests than the girls: the girls' final scores surpassed the boys in one of the tests. (Volcanoes)

2. Boys and girls made about the same average gain in three of the tests: the girls made somewhat higher in two tests.

3. On final tests after seeing the pictures, the boys and girls made an average gain of about 19 points on each test. Since there were 50 questions in each test, this is a gain of 38 percent.

4. The percent of gain made in the five tests ranged from about 42 percent on the test on Glaciers to about 607 percent on the test on Monarch Butterflies, with a total gain of about 115 percent on all five tests after seeing the films.

To give some indication of the ability of the group they were given Form A of the Terman Group Test of Mental Ability. The range of I.Q.'s for the boys was 94 to 158, for the girls, 87 to 137. The average gains for the five tests were computed for the lowest and the highest fourth and for the middle half of the group in order to show the amount of immediate

(*Concluded on page* 60)

Units of Instruction for Teacher Training Courses (No. 2)

How are "Still" Projectors Used?

L. PAUL MILLER
Bucknell University, Lewisburg, Penna.

(A) *How are glass slide projectors used?*

There are two kinds of glass slide projectors: (1) the usual horizontal projectors, and (2) the vertical, or overhead projectors. The former may also be used for "daylight" pictures, with translucent screens. The following discussion deals primarily with the ordinary, horizontal projection on opaque screens, from glass slides used in projectors placed in the rear of the spectators.

Glass slide projectors, also known as lantern slide projectors or stereopticons, and by various trade names, are among the simplest projectors to operate. Such a projector

(1) should be portable;
(2) should be equipped with a 500 watt, 110-115 volt Mazda lamp, for ordinary classroom purposes;
(3) should have a double slide carrier, so that a slide can be inserted while another is being shown;
(4) should have a projection lens of about 10 or 12 inches E.F. (equivalent focal length) for opaque screen, and
(5) should produce a picture 6 or 7 feet wide, when projector is placed about 25 feet from the screen.

Author's Note: This is No. 2 of a series of units of instruction, for training teachers in the use of projection equipment. No. 1 appeared in the last issue of THE EDUCATIONAL SCREEN. The units are selected from mimeographed material which has been in use in several colleges, in their visual instruction courses. The attempt has been made to bring together instructional material for such courses, which has been widely scattered, and to put the courses on a laboratory basis. Stress is placed on individual practice, by student teachers, in use of projection equipment. Comment is invited by the author of this series, on possibilities for fuller development of such a laboratory course, for teacher-training institutions. No. 3 of the series, next month, will be on the problem: "How Are Lenses Used in Projection?"

(B) *How are glass slides handled and cared for?*

Glass slides, as well as film slides and motion picture films, are placed in projectors up-side down and reversed; that is, so that lettering reads from right to left. This is for projection on an opaque screen. A few simple rules should suffice, for the handling and care of glass slides:

(1) Every slide should have a thumb-mark in what is the upper right-hand corner, when the slide is in correct position in the carrier.
(2) The operator faces the screen, from behind the projector, holds the slide with the right thumb on this mark, and places the slide in the carrier.
(3) He moves the carrier into place, so that all of the picture appears on the screen, and then places the next slide in the other frame of the carrier.
(4) A slide should not be left in the projector too long, since the heat from the Mazda Lamp may cause the glass to crack, or the picture to "run."
(5) A slide should be touched only along the edges, since finger marks are magnified on the screen.
(6) Every slide should be cleaned occasionally with a damp, soft cloth.
(7) Slides should be kept in partitioned boxes, or drawers of cabinets.

(C) *How are film slide projectors and film slides used?*

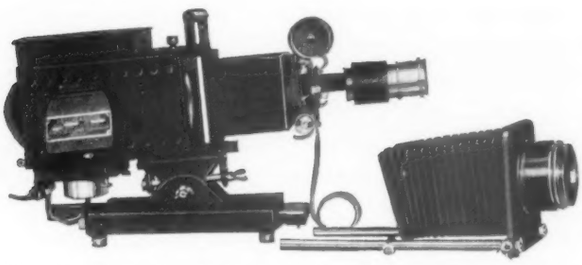
Both film slide projectors, and film slide attachments for glass slide projectors are available. Since film slide frames are much smaller than glass slides, they cannot be used to project pictures having the same size and brilliancy as those from glass slides. ("Stillfilms" are larger than film slides of the 35 mm. type, and produce larger pictures.)

With a 500-watt lamp, and a 4-inch focus lens, a picture can be projected about 5½ feet wide, at a distance of 25 feet from an opaque screen, by use of 35 mm. film slides. The film strip is placed in the upper

container, the gate is pulled open, the film is passed between the plates of glass, is guided so that the sprocket holes engage with the sprocket roller, is inserted in the lower container, if any, the picture is properly "framed," and then the gate is snapped back into place. A turn of a button or knob moves the film so that successive pictures appear on the screen. Each picture may be kept on the screen as long as needed, in properly equipped projectors, and pictures may be shown in reverse order merely by turning the knob in the opposite direction. "Stillfilms" are inserted horizontally, in a carrier made for use with any stereopticon.

(D) *How are opaque projectors used?*

These are constructed to show pictures from opaque objects inserted either horizontally or vertically. Book



Combination glass slide, film slide, and microscope slide projector. The filmslide attachment is shown in place. The bellows at the side are interchangeable, and when used instead of the film slide equipment, make a glass slide projector of the instrument.

(Courtesy, Spencer Lens Co.)

pages, solid objects, mechanisms, maps, etc., may be shown on the screen. Since much light is lost, due to double reflection, the picture on the screen is not as brilliant, with some strength of light, as a picture from a glass slide. A room must be well darkened for good results, ordinarily. Opaque projectors are on the market however, which are intended for "daylight" use with translucent screens. The mirrors in opaque projectors must be protected very carefully.

(E) *How are "daylight" projectors used?*

When projectors are used back of translucent screens, short focus lenses are used. Slides are inserted in projectors inverted, but with lettering from left to right. (See later unit No. 5 in this series: "How Are Classrooms Prepared for Projection?")

Verbal Aids for Teaching This Unit

Instructions for operating different types of "still" projectors, (from companies supplying projection equipment).

Add:

Visual Aids for Teaching This Unit

All types of "still" projectors, in use.

Glass slides projected on screen, (from set of slides on construction of stereopticons, Spencer Lens Co., Buffalo, N. Y.).

Add:

Individual Practice

Demonstration lessons, given before the class, on construction of "still" projectors, using glass slides listed above.

All types of "still" projectors, operated by members of the class.

Measurements made of widths of images from various types of projectors, with opaque screen and with translucent "daylight" screen, distance between projectors and screens remaining constant, for each kind of screen. (Results below.)

Add:

Written Summary

(O) Distance from opaque screen, for dark room projection:.....feet.

(T) Distance from translucent screen, for "daylight" projection:.....feet.

	Type of Projector	Width of Image	Focal Length Lens
1. Glass slides	(O)	.....	.....
	(T)	.....	.....
2. Film slides, 35 mm.	(O)	.....	.....
	(T)	.....	.....
3. "Stillfilms"	(O)	.....	.....
	(T)	.....	.....
4. Opaque objects	(O)	.....	.....
	(T)	.....	.....

FILM PRODUCTION ACTIVITIES

The aim of this new department is to keep the educational field intimately acquainted with the increasing number of film productions especially suitable for use in the school and church field.

Motion Picture Advertises San Francisco Region

The San Mateo County Chamber of Commerce, convinced of the effectiveness of motion pictures in community advertising, are distributing, through the Frank R. Church Films, a two-reel scenic film depicting the charms and advantages of *California's Picturesque Peninsula*. The film, prepared under the direction of Roscoe D. Wyatt, manager of the county chamber of commerce, contains such scenes as the Home of President Hoover, the two great Universities of Stanford and California, historic missions, giant Redwoods, beaches, Tanforan races, polo, high diving and scenic points in the county.

The use of community films was first made effectively by the San Jose Chamber of Commerce in 1920. Instead of printing the usual report of a chamber of commerce, its annual report that year was in the form of a motion picture. Constantly increasing requests for this film prompted the making of another in 1921, showing living, business and recreational conditions in the Santa Barbara valley.

Little difficulty was met at that time in releasing this film through approximately 2500 theatres, the same films going later to schools, churches, lodges and community meetings. Besides domestic circulation, this film was shown in the best theatres in New Zealand, Australia and the British Isles. Before many years passed however, this free and valuable distribution throughout the theatrical field became impossible or prohibitive as to cost, but in the meantime the distribution for informative and enlightening films was greatly developed by visual education departments in leading universities, colleges and schools, and agencies catering to the non-theatrical field.

To this non-theatrical field San Mateo County has gone with its two reel film, *California's Picturesque Peninsula*. Ten agencies in the various states were selected to distribute the production. These ten prints of two reels each were seen by more than 90,000 people during the first nine months, according to reports from visual education departments and non-theatrical agencies. With some changes in the states they are beginning their second year of service and an additional five prints has just been made for distribution in five more states, a total of fifteen prints now showing in as many states. More than 150,000 people will enjoy a half hour visit to the San Francisco Peninsula, even before reaching California. Another single print of the same film, placed in the projection room of the California State Building in Exposition Park, Los Angeles, is shown to approximately 800 persons each week at no expense other than production. The entire cost of showings seen by the 90,000 persons in the middle western states has been less than one-half cent per person per reel.

Arrangements have now been made to convert this San Mateo County film into a one reel sound film for theatrical distribution, by substituting talking titles and synchronizing with sound effects at appropriate points. Distribution has already been assured for this sound reel which has been named *A Ramble Roundabout the Hoover Home* and the initial edition of it will consist of ten prints for outstanding population centers in the middle west and eastern states.

New Firm Specializes in Expedition Subjects

Raspin Productions has been formed, with headquarters in New York City, to specialize exclusively in the creation of exploration films. The company, which plans to send out expeditions to all parts of the world, has released its first picture, *Explorers of the World*. This production embraces the expeditions of six prominent explorers to different spots, with their own dialogue.

Harold McCracken tells of his Siberian-Arctic Expedition and what he saw in Alaska, the Bering Sea and Straits and in the Arctic. Gene Lamb and his Photo-Scientific Expedition to Tibet deliver the second chapter, which also includes scenes of India, Bali and Borneo. Third is James L. Clark and his African Expedition, and fourth is Lieutenant-Commander J. R. Stenhouse, who headed the Imperial Trans-Ant-Arctic Expedition. Dr. Laurence M. Gould, second in command of the Byrd Expedition to the South Pole, talks on the food problem in connection with that Expedition but no motion pictures are shown since Paramount held exclusive rights. Last is Harold Noice, who takes the story thread from the South Pole to the headwaters of the Amazon River, show-

ing some interesting shots of various animals and birds.

This production should have real value for instructive purposes.

Film Tells Story of Wool

Wool-Marketing and Manufacture is the title of a new motion picture sponsored by the Bureau of Agricultural Economics and produced and distributed by the Office of Motion Pictures, Extension Service, U. S. Department of Agriculture. This is a three reel silent film, showing essential steps in the proper handling of wool from flock to market and covering the whole process of manufacture. It is of special interest to wool growers, but the general public will learn much from it.

The film story follows the fleece on its long journey to cloth. It begins in Wyoming where the film shows sheep being sheared by highly skilled professional sheep shearers. We learn that the flocks of the United States produce about 400,000,000 pounds of wool annually and follow some of these millions of pounds as they journey through the mill, where they pass through many processes before the wool becomes yarn. The yarn is woven into cloth and different textures are achieved. The closing scenes show the goal of all of this endeavor—some of the many uses of wool.

Making of Safety Glass Filmed

A new and interesting educational film is a sound motion picture just released and shown at the Chicago Automobile Show by the Libbey-Owens-Ford Glass Company. It displays the manufacture of safety glass for automobiles.

The motion picture, which is accompanied by descriptive dialogue, shows how the thin, polished plate glass is cut to size as per specified orders from manufacturers. These thin sheets of plate glass are then bonded to a sheet of pyroxylin plastic, forming a sandwich. It is this bonding agent, which holds the glass to the plastic, that prevents pieces of broken glass from flying and causing injury and damage.

The picture follows the cutting and inspection of the glass, inspections of the plastic, and then application of heat and pressure on the sandwich, which forms the completed unit of three pieces.

U. S. C.-Notre Dame Football Feature

A motion picture of the University of Southern California-Notre Dame game, which has been referred to by experts as "the greatest game in football history," and the one in which Notre Dame received its first set-back in three years has been made under the auspices of the Knute Rockne Memorial Association, and will be nationally distributed by Sono Art-World Wide Pictures, Inc.

Directed by Heartley Anderson and Howard Jones, coaches of Notre Dame and U. S. C., respectively, the film purports not only to show this gridiron classic which will go down in football history, but to explain, by the use of slow motion and enlightening talk, how and why the plays were made.

A complete crew of motion picture cameramen were brought right into the stadium at South Bend, Ind., where the game was played, and because of the close-up shots of the fine plays, the game on the screen proves as exciting as it could have been to the actual spectators.

Functions of a City Department

(*Concluded from page* 38)

department should prepare typical and suggestive lesson plans using visual aids. Such plans may vary from a simple outline using but a single aid, to an elaborate project lesson using many aids. At least one typical lesson plan should be prepared for each grade and subject.

The department can render valuable assistance in preparing local material for school use. Frequently local material is neglected because it is not in a convenient form. The department can collect samples of local products, as well as prepare photographs, slides, and films of local industries, historical places and local government activities.

A photographic section is considered by many to be an indispensable part of the department for making pictorial material of local interest. Such a section is responsible for duplicating any material which can be reproduced by a photographic process including, photographs and slides of charts, models, pictures, and similar material which is not copyrighted. An educational museum is also a desirable section for the department to establish, to present in an effective manner such material as cannot be conveniently sent to the schools.

Although the functions which have been briefly described are by no means all of the functions of a well organized department, they will serve to show the many and varied activities of the department. There is perhaps no other department, except possibly the superintendent's office, which makes contact with as many branches of the educational system nor which has as many and varied functions.

NEWS AND NOTES

CONDUCTED BY JOSEPHINE HOFFMAN

Report on Sound Film Experiment

A brief note appeared in the last issue of THE EDUCATIONAL SCREEN on the experiment being conducted by Harvard Graduate School of Education and the University Film Foundation to determine the efficacy of sound motion pictures as a teaching aid in general science.

Mr. Abraham Krasker, of the Quincy Public Schools, Massachusetts, has sent us a detailed report on the work, which we are glad to pass on to our readers.

Three parallel groups are employed, equated on the basis of chronological age, mental age score, and general science information. The Terman Group Test of Mental Ability and the Ruch-Popenoe General Science Test were used for equating purposes.

The experimental group, about 400 children, is receiving instruction by means of a textbook supplemented by sound motion pictures. The control group, about 1500 children, is receiving instruction by means of the same textbook, but with no motion pictures. The third group, called the "zero" group, contains about the same number of subjects as the experimental group and is equated with the other two groups at the beginning of the experimental instruction period, but receives no instruction in the experimental subject matter. The mean score which this group obtains on the end-tests will locate the zero point on those tests: the score which represents just no instructional effect.

Knowing the end-score which subjects of the type used will get with no instruction, the two mean end-test scores for the instructed groups may be more meaningfully compared. Any final difference between these two groups may be compared with the amount by which either differs from the zero point.

Besides the immediate end-tests, further tests will be administered to the instructed groups after an interval of several weeks, to determine the relative amounts of retention resulting from the two instructional procedures.

The experimental instructional material is embodied in a textbook written expressly for the experiment. Supplementing each of the eight chapters of the textbook is a reel of sound motion pictures. Six of the eight reels were produced by the University Film Foundation under the direction of Mr. John Haeseler. The other two were supplied for the experiment by the Western Electric Company. Although both the text and the film abstain throughout from mentioning each other, they were both produced from the same basic script.

Bicentennial Slides for New York Schools

The New York Visual Instruction Division is offering to the schools of the state excellent collections of lantern slides covering the career of Washington. The material is designed to meet the needs of schools in connection with the George Washington Bicentennial programs which will be held throughout the year.

The Division has organized its slides into the following special groups, which provide for a progressive study of Washington's private and public life: Ancestral Home, Youth and Early Manhood, 20 titles; Life at Mount Vernon, 33 titles; Military and Civic Activities before the Revolutionary War, 15 titles; Washington in the Revolutionary War, 37 titles; Post-War Period of Public Life, Notable Monuments to Washington, 32 titles.

P. T. A. Sponsors Junior Matinees

Finding that the possibilities of moving pictures for recreation and education are unlimited, the executive board of the Old Greenwich, Connecticut, Parent-Teacher Association has decided to submit to the members of the association a program of wholesome motion picture entertainment. Accordingly, a committee for better films has been formed for this purpose, of which Mrs. Theodore Veltfort is chairman.

Through the courtesy of Rev. Allan I. Lorimer, the auditorium of the new June Binney Memorial parish house has been made available. This modern auditorium has a seating capacity of 360 and excellent facilities for the showing of pictures.

The initial performance was given on Friday afternoon, January 8, and every available seat was taken. The feature selected for this program was Mr. and Mrs. Martin Johnson's animal film, *Simba*. A travelogue entitled, *A Bit of High Life*, showing Alpine climbers in the Canadian Rockies, and an animated cartoon telephone comedy completed the program.

(*Concluded on page* 52)

EDITORIAL

IN the January issue of Visual Instruction News, published by the Extension Division of the University of Kansas, our valued friend and fellow-editor, Ellsworth C. Dent, also the markedly efficient secretary of the National Academy of Visual Instruction, said with regard to the two national organizations now in the visual field . . . "The activities of each parallel those of the other. One is giving first consideration to the problem of teacher-training; the other is considering teacher-training problems. Neither has done much more than to convene once each year for a brief series of pleasant meetings, luncheons, etc. Neither has the recognition or standing that it should have."

From the beginning the guiding principle seems to have been somewhat as follows: *Let there be at all times two organizations*—each to accomplish practically nothing save to countermine the efforts of the other—*instead of one single organization*—which would eliminate the problem of choice by potential members, hence enlist readily the total support available from the budding field, and inevitably show vastly greater accomplishment by this year of our Lord 1932.

For such faint archaeological interest as it may afford, we summarize the procedure of the last twelve years. In 1919 were formed, a few months apart and each duly documented, "The National Academy for Visual Instruction" and "The National Academy of Visual Instruction", quite independent of each other but with purposes differing only by the preposition. When the former died from doing nothing, The National Academy of Visual Instruction was supplied with a new partner-opponent by the formation of "The Visual Instruction Association of America". After a few years of friendly and feeble sparring by these two, by a process of painless absorption The National Academy of Visual Instruction emerged victor and was promptly paired with the newly formed "Department of Visual Instruction of the National Education Association", which is the present situation.

THE EDUCATIONAL SCREEN has been in fairly intimate and sympathetic touch with these goings-on from the beginning. It holds, buried some ten years deep in its files, the original documents of "The National Academy for Visual Instruction", birth certificates of the still-born pioneer. From January '23 to June '24, we had the honor of being official organ for the N. A. V. I., carrying a special department of which the contents were to be furnished each month by the organization. After the 16 issues no more contents were forthcoming. From December '22 to June '25 we were also official organ for the V. I. A. of A., carrying a similar department which ended similarly after 27 issues. The first president of the Department of Visual Instruction of the N. E. A. appointed us in similar capacity in March '24, but material from that source lasted for barely 3 issues. We have since had a long vacation from official organing.

THERE is immense vitality and potential strength in a field that has some 50,000 teachers "active" and at least another 100,000 "interested". Many of the 50,000 need to be helped beyond the fumbling stage by scientific assistance from an authoritative source. The 100,000 need merely judicious provocation and respected leadership to swell the ranks of the 50,000. To accomplish all that the above suggests is a task indisputably colossal.

There is only one hope for the gradual achievement of such a task, namely, to establish a single national organization that shall combine every possible element of strength available from the present field. It should aim to enroll every educational leader of recognized influence and authority on visual work, every teacher seriously interested and active in teaching with visual aids; and it should ally itself intimately with every commercial interest that is qualified to contribute to real progress in visual education. Then, with a single medium for complete inter-communication in the form of a national magazine that can permeate the field to its remotest corners at minimum expense, such an organization can proceed confidently to correlate research, unify aims, coordinate effort and harmonize practice everywhere.

Such an organization can be established now, within the 48 hours of February 23rd and 24th at Washington, by the merger of The National Academy of Visual Instruction and the Department of Visual Instruction of the N. E. A., the oldest and the newest organizations. Such a move will put an end to twelve years of pottering, and inaugurate a future of unlimited possibilities. The power to make this momentous decision will be in the hands of relatively few at Washington. It is a distinguished privilege which we are certain they appreciate. THE EDUCATIONAL SCREEN expects the vote for the merger to be emphatic, enthusiastic and unanimous.

NELSON L. GREENE

Twelfth Annual Meeting of The National Academy of Visual Instruction

In session concurrently with the
Department of Superintendence of the N. E. A.
WASHINGTON, D. C., February 23 and 24, 1932

Headquarters: The National Press Club. Formal Programs will be held in the Auditorium of the National Press Club, 14th and F St., N.W.

Officers 1931-1932

President—F. Dean McClusky, Director, Scarborough School, Scarborough, New York.

Secretary-Treasurer—Ellsworth C. Dent, Secretary of the Bureau of Visual Instruction, University of Kansas, Lawrence, Kansas.

Executive Committee

Daniel C. Knowlton—Professor of Education, New York University.

Rupert Peters—Director of Visual Instruction, Public Schools, Kansas City, Missouri.

A. G. Balcom — Assistant Superintendent of Schools, Newark, New Jersey.

Charles Roach (deceased Nov. 6, 1931)—Director of Visual Instruction, City Schools, Los Angeles, California.

John A. Hollinger—Director, Department of Science, City Schools, Pittsburgh, Pennsylvania.

William H. Dudley—Editor, Yale Pageant of America, Educational Lantern Slides, Chicago, Illinois.

Eugene I. Way—*Local Chairman on Arrangements,* Chief, Industrial and Educational Section, Motion Picture Division of the U. S. Department of Commerce.

PROGRAM

Executive Committee and Officers will meet Tuesday morning at 7:45 (breakfast). National Press Club.

FIRST SESSION

Tuesday, February 23rd, 10:00 A. M. to 12 M.

Round Table Topic: *The Administration of Teacher Training in Visual Instruction.*

1. Presentation of Agenda for the Round Table.
2. Discussion.

The following are to participate in the discussion of the Agenda. (The names are arranged alphabetically, not in order of participation.)

Naomi S. Anderson—Department of Visual Education, Chicago Public Schools, Chicago, Illinois.

Arthur G. Balcom—Assistant Superintendent of Schools, Newark, N. J.

C. Beverley Benson—Author, Living Geography, Yonkers, New York.

F. C. Borgeson—Associate Professor of Education, New York University.

E. Winifred Crawford—Director of Visual Education, Montclair, New Jersey.

Ellsworth C. Dent—Secretary-Treasurer National Academy of Visual Instruction, Secretary of the Bureau of Visual Instruction, University Extension Division, University of Kansas.

William H. Dudley—Editor, Yale Pageant of America, Educational Lantern Slides, Chicago, Illinois.

J. Elizabeth Dyer—Department of Visual Instruction, Washington, D. C.

Frank N. Freeman—Professor of Education, University of Chicago.

John T. Garman—Special Assistant in the Division of Visual Education, Board of Public Education, Philadelphia, Pennsylvania.

Rebecca J. Gray—Franklin School, Washington, D. C.

W. M. Gregory—Director Educational Museum, Cleveland Public Schools, Cleveland, Ohio.

George E. Hamilton—Director Department of Education, Keystone View Company, Meadville, Pa.

J. E. Hansen—Chief Bureau Visual Instruction, University of Wisconsin.

C. F. Hoban—Director, The State Museum and Visual Education, Department of Public Instruction, Harrisburg, Pennsylvania.

Rita Hochheimer—Assistant Director of Visual Instruction, Board of Education, New York City.

John A. Hollinger—Director, Department of Science, Pittsburgh City Schools, Pittsburgh, Pa.

John J. Jenkins—Director of Visual Education, Bronxville, New York Public Schools.

Edwin W. Johnson—Director of Visual Education, Bridgeport, Connecticut.

Fred E. Kelly—Professor of Education, Gettysburg College, Gettysburg, Pa.

Newton Kerstetter—Director of Visual Instruction, State Teachers College, California, Pa.

Daniel C. Knowlton—Professor of Education, New York University.

Abraham Krasker—Director of Visual Instruction, Public Schools, Quincy, Mass.

Sally B. Marks—Professor of Visual Education, University of North Carolina.

Morris Meister—New York Training School for Teachers, New York City.

L. Paul Miller—Central High School, Scranton, Pennsylvania.

Grace Fisher Ramsey—Secretary-Treasurer of the Department of Visual Instruction, N. E. A., Associate Curator American Museum of Natural History, New York City.

Frank Reh—Principal, Public School 212, Brooklyn, New York.

Irving Ritter—Principal, Public School 139, Queens, New York City.

Martha Scott—Professor in Biology, Southern Illinois Normal University, Carbondale, Illinois.

Mortimer L. Simpson—Principal, Lexington School, New York City.

Charles A. Tonsor—Principal, Grover Cleveland High School, New York City.

Ralph E. Wager—Director of the Department of Education, Emory University, Georgia.

H. S. Walsh—New York Training School for Teachers, New York City.

Eugene I. Way—Chief, Industrial and Educational Section, Motion Picture Division of the U. S. Department of Commerce, Washington, D. C.

W. W. Whittinghill—President Department of Visual Instruction, N. E. A., Assistant Director of Visual Instruction, Detroit Public Schools.

Ben D. Wood—Professor of Education, Teachers College, Columbia University.

SECOND SESSION

Tuesday, February 23rd, at 2:30 P. M.

Round Table Topic: *The Administration of Teacher Training in Visual Instruction* (Continued from the First Session).

1. Presentation of Agenda for the Round Table.
2. Discussion .(Continued from the First Session)

THIRD SESSION

Wednesday, February 24th, at 7:45 A. M.

Round Table Topic: *Progress in Visual Education for* 1931-32.

1. Music—William H. Dudley, Chicago, Ill., in charge.

Reports from the Field

2. Claire Zyve—Principal Fox Meadow Elementary School, Scarsdale, New York: "Experiments with Film Strips in Teaching Arithmetic and Spelling."
3. Marguerite E. Schwarzman—Director, The Children's Laboratories, New Rochelle, New York: "Visual Instruction in Science Teaching."
4. George J. Zehrung—Director Y. M. C. A. Motion Picture Bureau, New York City: "The Outlook for 1932-33."
5. Arno Viehoever—Director of Biological Research Department, Philadelphia College of Pharmacy and Science: "Harnessing the Moving Picture to Instruction in Biology."
6. James G. Sigman—Director of Visual Instruction, Public Schools, Philadelphia, Pennsylvania: "Visual Instruction in Philadelphia."
7. Reports from Delegates representing Industry.

FOURTH SESSION

Wednesday, February 24th, at 10:00 A. M.

Round Table Topic: *Summary of Conference Discussions on the Administration of Teacher Training in Visual Instruction.*

Leader—Dr. Daniel C. Knowlton, Chairman of the Committee on Teacher Training.

BUSINESS MEETING

(Open to members only)

1. Report on the Research Committee—F. Dean McClusky.
2. Report on the Committee on Standards—John A. Hollinger.
3. Report on Progress from the Massachusetts Branch of the National Academy of Visual Instruction—Abraham Krasker.
4. Report on Progress from the New York City Branch of the National Academy of Visual Instruction—Rita Hochheimer.
5. Report of the Secretary - Treasurer — Ellsworth C. Dent.
6. Report of the Executive Committee—Arthur G. Balcom.
7. Report of the Committee on Merging with the Department of Visual Instruction of the National Education Association—F. Dean McClusky representing the National Academy; W. M. Gregory, representing the Department of Visual Instruction.
8. Election of Officers.

FIFTH SESSION

Wednesday, February 24th, at 12:15 P. M.

Greetings to the National Academy of Visual Instruction—Dr. Florence Hale, President of the National Education Association.

Address—Dr. P. J. Rulon, The Graduate School of Education, Harvard University.

Address—Dr. Eugene A. Colligan, Associate Superintendent of Schools, New York City.

Address—Dr. W. H. Pillsbury, Superintendent of Schools, Schenectady, New York, President New York State Teachers Association.

(Note: Much excellent work in Visual Instruction is being done in the public schools of Washington, D. C. and vicinity. Members of the Academy and its friends have been cordially invited to view this work. Arrangements for visitation may be made at the information desk.)

THE FILM ESTIMATES

Being the Combined Judgments of a National Committee on Current Theatrical Films

(The Film Estimates, in whole or in part, may be reprinted only by special arrangement with The Educational Screen)

Titles of Films (Actors) (Producers)	For Intelligent Adults	For Youth (15 to 20)	For Children (under 15)
Big Shot, The (Eddie Quillan) (RKO-Pathe) Very engaging small-town boy, with big business ideas that mostly fail, finally promotes successfully a swampy auto-camp. Some cheap risque lines lugged in, some very amateurish acting, but mostly wholesome, human and thoroughly amusing.	Fair	Rather good	Fairly good
Charlie Chan's Chance (Warner Oland) (Fox) Oland excellent as the shrewd and engaging Chinese detective who solves a murder that baffles both New York and London experts. Very complex plot and wordy dialog, but notably fine cast makes it one of best of kind. Not over-thrilling.	**Fine of kind**	**Good**	**Good**
Cock of the Air (Billie Dove, Chester Morris) (United Artists) Artificial, mostly silly and absurd story exploiting seductive power of heroine who makes Paris "unsafe for officers on leave". Banished to Italy she meets hero, also supposed irresistible, and both succumb. Highly objectionable and ridiculous.	Trashy	Pernicious	No
Dance Team (Sally Eilers, James Dunn) (Fox) Human and appealing picture of vaudeville life, its brief triumphs and long heartaches, excellently played by the two stars, with notable minor role by Harry Beresford. Wholesome and charming, amusing and sobering. Far above average stage-life picture.	**Interesting**	**Interesting**	**Good**
Emma (Marie Dressler, Jean Hersholt) (Fox) Wholesome, human comedy of the best, great solo part for Marie Dressler as efficient, practical, devoted foster-mother to five children, all of whom prove thankless cads in time of stress, except Ronnie. Typical Dressler humor, antics and pathos.	**Excellent**	**Excellent**	**Excellent**
Forbidden (Barbara Stanwyck, Adolphe Menjou) (Columbia) Mature problem play that avoids cheapness and vulgarity and achieves convincing though depressing reality. Lonely heroine meets lonely hero in gay Havana and liaison lasts till she learns hero was married man. Separation, child, tragic ending. Menjou good.	**Good of kind**	Unsuitable	No
Girl of the Rio (Dolores del Rio) Leo Carrillo) (RKO) Pale and feeble version of Holbrook Blinn's virile, colorful play, "The Dove," with heroine chiefly a reciter of lines, and hero a mere bombastic fool. Dramatic and character values lacking, climax weak. Nothing objectionable, but hollow and unconvincing.	Ordinary	Only fair	Hardly
Hatchet Man, The (Edward G. Robinson) (First National) Hectic melodrama of Chinese Tong feuds, with elaborate trappings and grim Oriental air of fatalism. Ideal sinister role for Robinson. Highly seasoned with infidelity and sudden death. Fantastic, thrilling, far-fetched and inprobable.	Perhaps	Better not	No
Hell Divers (Wallace Beery, Clark Gable) (M-G-M) Outstanding picture of Navy life, with Beery doing his finest work to date as a crude, tough, hard-hitting Petty Officer, but utterly human underneath and loyal unto death. Magnificent aviation stuff, U. S. Navy cooperating. Tense interest, wholesome thrill for all but over-sensitive children.	**Excellent**	**Excellent**	**Fine but strong**
Her Majesty Love (Marilyn Miller, Ben Lyon) (First National) Forced and feeble effort at comedy about wealthy family whose rebellious son marries a cabaret girl. Comic bits by Fields, Errol and Sterling are its only merit. Marilyn's great dancing talent is hardly given a chance.	Mediocre	Only fair	Fair
High Pressure (William Powell) (Warner) Fast-moving, farce-comedy, many funny spots, only objection the utter unscrupulousness of crook-hero, skilfully played by Powell. Fake invention is promoted by such wildly exaggerated methods that the whole situation becomes merely preposterous.	**Good of kind**	Good but doubtful	No
Local Boy Makes Good (Joe E. Brown) (First National) The campus grind, in Botany, is finally inspired to become track hero by feminine influence and a little alcohol. Some slapstick and hokum, but Brown is excellent in a real character role. Dorothy Lee very inadequate, rest of cast good.	**Amusing**	**Very good**	**Very good**
Lovers Courageous (Madge Evans, Robert Montgomery) (M-G-M) Light, wholesome and charming love comedy, beautifully done by Madge Evans and Robert Montgomery in best role he has had to date. Human and amusing throughout, in parts genuinely pathetic. Two notable minor roles. Excellent example to other producers.	**Charming**	**Excellent**	**Good**
Maker of Men (Jack Holt, Richard Cromwell) (Columbia) Stereotyped, prosy football picture, very ordinary in acting, dialog, direction and backgrounds. More or less false and absurd, especially the incredible dumbness of the one-idea father's treatment of his sensitive son. Futile effort to glorify football.	Stupid	Harmless	Harmless
Manhattan Parade (Winnie Lightner, Charles Butterworth) (Warner) Lively farce, all technicolor, burlesquing theatrical production on Broadway, stuffed with slang and low comedy of bellowing-voice type which drowns all character interest. Dialog and action merely crude and common, not offensive. Many laughs, little humor.	Hardly	Funny but cheap	Hardly
Mata Hari (Greta Garbo, Ramon Novarro) (M-G-M) Strong, thrilling melodrama of war-spy-intrigue. Super-sex role for Garbo as professional spy and chronic seductress. Most extreme Garbo stuff to date, thoroughly unwholesome for youth. Harrowing tragic ending supposed to make it "moral".	See it and think	Pernicious	No

Titles of Films (Actors) (Producers)	For Intelligent Adults	For Youth (15 to 20)	For Children (under 15)
Menace, The (H. B. Warner) (Columbia) An exceedingly well done little crook-detective drama, finely acted except for some silly comic relief, with interest and suspense held throughout. Three society crooks try to steal old English estate but hero defeats them, mostly single-handed.	Good of kind	Very good	Good
Murders in the Rue Morgue (Bela Lugosi, Sidney Fox) (Universal) Another of the epidemic horror-films — pretentious, clumsy screening of Poe's great tale. Plot and drama are buried by sombre lighting, heavy sets, vague characters, poor acting, and general overstraining after murder thrills. Elaborate, ineffective, typically naive.	Perhaps	Doubtful	No
No One Man (Paul Lukas, Carol Lombard) (Paramount) Cheap story about rich, vacuous heroine, with jovial father and ridiculous mother, leading life of social frittering. Marries play-boy rake, whose mistresses drive her back to former fiance, finely played by Lukas who is wasted in such a film.	Trashy	Certainly not	No
Panama Flo (Helen Twelvetrees, Chas. Bickford) (RKO) Cheaply sensational, sexy stuff about virtuous heroine who is cabaret-dancer in low sea-front dive in tropics. Smooth U. S. aviator is the villain, and a tough, roughneck American prospector in wilds of South America is the hero. Mostly preposterous and waste of good acting.	Trashy	By no means	No
Safe in Hell (Dorothy Mackaill) (First National) Sensational, preposterous yarn about scarlet heroine reformed by true love—left by husband on tropic isle among ruffians—waits faithfully—finally walks deliberately to gallows to keep faith. Hectic, absurd, heroism badly overdone.	Trashy	Certainly not	No
Sea Ghost, The (Laura LaPlante) (Peerless) Third-rate sea story, utterly banal in plot, acting, dialog and direction. Slow, confused, dull.	Mediocre	No	No
Speckled Band (English production) (1st Division) Interesting Sherlock Holmes story, fairly good technique, fine dramatic value and atmosphere. Slow tempo of real life and very natural acting make it very convincing. Unusual portrayal of Holmes. All cast good except Dr. Watson.	Good	Good	Good if not too strong
Stepping Sisters (Louise Dresser) (Fox) Labored farce-comedy, mostly absurd, with Louise Dresser wasted on ridiculous role. Three burlesque queens, meeting again after many years, make hash of an elaborate social function. Poor, crude, and much inferior acting.	Poor	Hardly	No
Taxi (James Cagney, Loretta Young) (Warner) Thrilling taxi-feud story, with Cagney perfect as tough, insolent, smart-aleck, quick-fisted, girl-bullying hero, made wholly admirable. Lively, fast, amusing, no sex exploitation, but glorifies the swaggering tough guy and a low type of living.	Good of kind	Good of kind	Doubtful
This Reckless Age (Richard Bennett, Frances Starr, Charles Ruggles, Frances Dee) (Paramount) Splendid domestic comedy, thoroughly human, appealing and beautifully acted. Rich in character interest, free of cheap sensation. An intelligent picture that will please everyone. Belated, but most welcome "imitation" of "The Goose Hangs High."	Enjoyable	Excellent	Good
Three Wise Girls (Jean Harlow) (Columbia) Trashy story, good cast. Married men chase working girls, give them fine apartments, then let them commit suicide or get out of it as best they can.	Mediocre	No	No
Tomorrow and Tomorrow (Ruth Chatterton, Paul Lukas) (Paramount) Mature problem play, done with distinction, dignity and convincingness. Love-starved wife, genial but non-understanding husband, charming doctor from Vienna, illegitimate child, final loyalty of wife to her marriage. Wordy, but deftly and delicately done, save for heroine's marked mannerisms.	Good of kind	No	No interest
Two Kinds of Women (Miriam Hopkins) (Paramount) Country-bred daughter of Dakota senator wins rich play-boy, who will reform and marry her. Shows New York life merely as continuous woman-chase by men, with lavish apartments, glorified speakeasies and very drunken women as chief features. Some fine acting.	Perhaps	Unwholesome	No
Under Eighteen (Marian Marsh, Regis Toomey) (Warner) Ordinary picture about working-girl heroine, her grocer-clerk fiance, and the pain of being poor. She turns against marriage when sister's marriage goes on the rocks. Very unwholesome experiences at penthouse party of rich philanderer send her back to fiance.	Hardly	Better not	No
Unexpected Father, The (Slim Summerville) (Universal) Newly rich, dumb bachelor accidently becomes "daddy" to tiny orphan girl and hires dumb nurse. Situation spoils his planned marriage into a gold-seeking family, so he marries the nurse. Elementary humor, naive acting.	Mildly amusing	Funny	Funny
Union Depot (Doug Fairbanks Jr.) (First National) Very clever skilfully directed and played story of day in great railroad station. From teeming life and movement emerge gradually individuals tangled in a romantic, melodramatic situation. One quite objectionable sex scene, but total effect probably good.	Excellent	Entertaining	Probably good
Way Back Home (Phillip Lord as "Seth Parker") (RKO) Realistic old-fashioned country life and character, good melodramatic story, good singing, typical country antics. Acting and sets good, atmosphere genuine, and very little exaggeration for those who know life as lived in the rural hinterland.	Unusual	Very good	Good
Woman from Monte Carlo, The (Lil Dagover, Walter Huston) (Warner) Heroine with notorious past has married fine French naval captain. Her previous lovers make possible various sensational complications and cheap situations. Melodrama on the standard sex formula, with some really good acting wasted in it.	Mediocre	No	No
X Marks the Spot (Lew Cody, Sally Blane) (Tiffany) Newspaper gangster thriller, with little distinction in its acting, slangy dialog that is breezy but without spark. Villain's hold on hero prevents solution of crime until melodramatic and improbable ending. On the whole unobjectionable.	Mediocre	Fair	No

News and Notes

(*Concluded from page* 46)

For the present, only silent pictures can be shown. The committee is confident, however, that these initial programs will be so enthusiastically supported that the funds will soon be available to enable them to provide sound films.

A Microscopical Slide Loan Service

The Buffalo Society of Natural Sciences announces the inauguration of a new service this year, that is, the loaning of its splendid collections of microscopical slides which have been presented to the Society in recent years.

Among the outstanding series at present in the collection may be mentioned that of fresh-water sponges by the late Henry Mills and the Dr. E. G. Love Collection of insect preparations. There are also series of protozoa, animal and plant histology, and rock sections, as well as many miscellaneous objects.

These slides should be of valuable assistance to scientists, teachers, and students in the several fields covered.

Courses in Visual Education

Professor L. Paul Miller is offering a three credit evening course in Visual Education this semester at St. Thomas College, Scranton, Pa.

The course includes: classification and study of the main types of aids; handling of projection equipment; a treatment of present and future problems in visual education; a survey of such fields as teacher training, administration, and research; a listing of visual aids for use in own major field.

◆ ◆

During this past year New Paltz Normal School of New Paltz, New York, which is rapidly becoming recognized as one of the most progressive schools in the country, has presented a series of lectures dealing with Visual Education by such leaders as Dr. Daniel C. Knowlton, Dr. Edwin Reeder, Mr. Alfred W. Abrams, Mr. L. Paul Miller, and Dr. Dean F. McClusky.

These lectures have been followed with interest by educators throughout the state and recently Dr. Van Den Berg, President of the School, stated that a course in Visual Education will be offered during the summer session. This course will be given by Mr. John J. Jenkins, Chairman of Visual Instruction at the Bronxville Public Schools. This course is the first of its kind to be given in a Normal School of New York State and represents untiring efforts by its sponsors, Dr. Van Den Berg, Dr. F. Dean McClusky, and Mr. Jenkins.

Dr. Van Den Berg also announced a demonstration of sound equipment and educational films to be given at the School on March 10th, 1932, at 7:30 P. M. by Electrical Research Products of the Western Electric Company, Bell & Howell, The Ampro Corporation, The Fox Film Company, and Victor Animatograph Corporation. The latest sound education films in the fields of Science, Literature, Teacher Training, and the Social Studies will be shown. All interested are cordially invited to attend.

Movie Supplants School Year Book

The traditional school yearbook is giving signs of "going modern." The boys and girls attending the St. Paul Academy are making a movie this year instead.

School activities, sports, and "close-ups" of pupils and faculty will be recorded on film by a staff of school "cameramen." The making of football movies is already in full swing.

Instead of receiving, at the end of the term, books containing group pictures and "wise cracks," the pupils will be able to obtain copies of the motion picture to recall the life and events of their school year.

Visual Education Bureau in Australia

The report of the Visual Education Committee of Victoria recommends a visual education bureau, maintained by the Commonwealth Government with funds derived from film import duties. Appointed by the Government of Victoria in 1930 to investigate the possibilities of motion pictures as an adjunct to State school education, the committee has carried out a number of experiments in schools in Victoria. A Commonwealth bureau is the ideal of the committee, but, pending the establishment of this, the committee urges the immediate formation of a State bureau for the collection of films, photographs, slides, and other visual aids, and circulating them among schools.

Sound Installation

Contracts have been signed for the installation of sound equipment in the new Samuel Gompers Industrial High School for boys, in the Bronx section of New York, as the first step in the city's test of the potentialities of sound pictures in teaching.

AMONG THE MAGAZINES AND BOOKS

CONDUCTED BY MARION F. LANPHIER

Educational Research Bulletin (November 11) "Books Which Children Like to See Pictured", by Edgar Dale, presents an invaluable and suggestive survey of its subject.

The hordes of children who daily attend motion-picture theaters have led parents, educators, social workers, and others to become disturbed regarding the experiences to which children are being accustomed by viewing the films. The common opinion among this group of persons is that the themes of current motion pictures are too mature to be of greatest benefit to children. When these same parents and teachers, however, are asked to specify the types of content that should go into motion pictures for children, they are at a loss for answers. They have a feeling, however, that a major source of themes for such motion pictures would be the better books read by children.

The major difficulty involved in such a procedure lies in the possibility that the motion-picture interests and reading interests of children are highly diverse. Children may, for example, rate *Treasure Island* high as a reading book, but express no interest whatsoever in seeing it pictured. It becomes necessary, therefore, to determine whether books which children like to read are books which they express a desire to see on the screen. If we find a high degree of agreement between the two, then motion picture producers who wish to make motion pictures for children can make intensive use of all studies of children's interests in the field of literature.

The experiment to this end, conducted by the Federation of Mothers Clubs of Cincinnati and vicinity, using the public schools of that city, is described in detail in the article.

Fortunately, a measuring stick was available by which to compare first the interest value of books read by Cincinnati boys and girls with the interest values of books read by boys and girls throughout the rest of the United States, and we have available as well the judgments of a group of children's librarians as to the worth-whileness of these books. This measuring stick of interest and worth-whileness is the Winnetka Graded Book List. The list was formulated by asking 36,750 elementary-school pupils in a number of cities and villages throughout the United States to ballot on the interest value of the books which they read during a period of several months. The list of books which these children found interesting was then submitted to a group of specially chosen children's librarians who eliminated from this list those books which were believed to be trashy and of little value to children. The Winnetka Graded Book List, therefore, represents books approved by librarians which have been found to have high interest value for children.

The resulting list of books, selected by the children, presented these percentages.

Fifty-four, or 71 per cent, of the 76 books selected are on the Winnetka list. Twenty-two books named were not included in the Winnetka list. As a matter of fact, a good many of these 22 books would have the approval of both parents and teachers. *Cosette*, for example, is an excerpt from *Les Misérables*. Several other books appear commonly in school libraries, and are approved by teachers, but may not receive the approval of children's librarians.

Space does not permit further quotation regarding the high school list, but the above comments on the elementary list will give our readers a clear conception of this experiment.

New York State Education (January) In his article on "Equipment for Use of Screen Pictures", Mr. Alfred W. Abrams states briefly certain conclusions that have been reached from the activities of the New York Visual Instruction Division extending over a peroiod of years. He emphasizes the importance of classroom equipment which permits of the use of pictures at the time when they are needed.

The standard classroom equipment requirements for schools in New York who desire the use of state slides under the longer period of loan, include a projector, a convenient electric outlet, a suitable screen, some means of darkening the room adequately, and a special stand for supporting the lantern.

Projection Engineering (January) The value of the motion picture in the medical field has been recognized but it has not taken the strides which were predicted for it. Mr. Gordon S. Mitchell gives some reasons for the status of "Motion Pictures in Medical and Surgical Practices", presenting the photographic problems that must be met. The account contains some practical information on equipment and film stock. As to the value of the voice synchronized to the picture, Mr. Mitchell believes it may increase the utility of certain types of medical film. However, as few words as possible should be used so as not to distract attention from the photographed subject.

Federal Council Bulletin (December) "The Church and Motion Pictures" states that,

In motion pictures, developing rapidly from the silent picture to the talkie and now to television, humanity has achieved one of its most fascinating and powerful instruments for education and relaxation.

The motion picture uses the great art of dramatic presentation, the universal appeal to the eye which needs no language to be understood, and the tenacity of visual memory. It can be and is being used for both good and evil: for the happiness of the people, the broadening of their horizons, the cultivation

of manners, and as a welcome relief from the strain and boredom of modern life; but also for breaking down social standards, spreading false ideals of life, stimulating sensuality and weakening the constructive forces of civilization. There is no doubt that it is being used for unworthy purposes by powerful men. On the other hand, pictures of great significance and beauty are being produced in increasing numbers and receive gratifying patronage. The movie is both our despair and inspiration.

The author, Worth M. Tippy, then follows this intelligent and fair-minded résumé of an old and irritating sorrow with his ideas concerning the value of this medium to the church.

The great thing for the Church to do is to master the technique of the movie and to use this new instrument of power for the purposes of religion. This is something the Protestant churches have not done. There has been collaboration in the production of a few religious films like *The King of Kings,* and there have been efforts to produce films for the use of churches, but the latter have usually lacked either technique or financial resources, or both.

What is needed is something immeasurably greater — the production of films which portray the forces of religion at work dramatically and powerfully in innumerable social and life situations.

The Voice of Authority in the Field of Visual Education

The Educational Screen

A few valued opinions:

"After reading the current issue of THE EDUCATIONAL SCREEN I am further convinced of the magazine's inestimable value to all who are interested in the problems of visual material use." . . . Paul C. Reed, Board of Education, Rochester, N. Y.

"I am pleased with the forward-looking notions expressed in your editorials. . . . Your Film Production Activities are another step in the right directon." . . . W. M. Gregory, Educational Museum, Cleveland, Ohio.

"Its general worth becomes more and more indispensable. With its aid I am able to keep abreast of the times." . . . E. A. Hyldoft, Dept. of Biology, High School, Huntington, West Va.

"We consider THE EDUCATIONAL SCREEN the most important visual aid we have. Only with such work as this can we stride along more rapidly in the visual field." . . . Vernett E. Peterson, Principal, Junior High School, Eau Claire, Wis.

Subscribers are entitled to a copy of the famous "1000 and One Blue Book of Non-Theatrical Films" for 25c. This annual publication, the standard reference work for film users, lists several thousand films for education and entertainment, classified and arranged in **136 numbered subject groups,** with full information given on every film—title, number of reels, brief summary of contents and sources distributing the film. Includes 35 mm. and 16 mm. silent and sound films.

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In any case, as Professor Markovin, of the University of Southern California, has said: "When the Church produces a better film of its own for its own purposes than the producers are able to produce—more dramatic, more appealing, more searching—it will begin really to influence the industry."

Movie Makers (December) Mr. Louis M. Bailey reports, in his department concerning educational films, that the Director of Visual Education in the New York City Public Schools wishes to use all possible amateur film material on health, science, industry, nature, travel and other subjects, as such material will be a valuable supplement to professional material.

New York Times Magazine (November 29 and December 6) Anne O'Hare McCormick writes two articles on the film capitol, Hollywood. These prove to be interesting and fair-minded discussions. The author feels that she could not imagine Hollywood's happening in any other country than in the United States, nor in any other state than that of California. She says that the most expert director, had he chosen an ideal location for the film capitol, could have selected no better spot. Of the many comments appearing on the cinema center, Miss McCormick's articles are among the best.

School and Home (November) Luella N. C. Whitaker describes in detail a project carried on by a third grade on "Our Desert Indians," which was stimulated by the showing of a moving picture on "Homes of the World." A great deal of illustrative material was gathered by the pupils and several films pertaining to the topic exhibited. Excursions to the Natural History Museum and slides greatly enriched the work in giving a closer acquaintance with the country, the people and their activities.

The Saturday Evening Post (November 21) "No Means No!", by Geraldine Farrar, is an interview concerning the author's intelligent resumé of certain outstanding facts of her career and her leave taking of that career. To many of our readers who know Miss Farrar, not in operatic roles, but in those too few screen roles of her brief cinematic experience, this article should be delightful reading. It is not too much, we think, to say that few great artists of that day when the combination of genius and hard work produced many tremendous personalities behind the footlights have had the cool and objective helming of their careers that marks Miss Farrar's guiding of her life as it has slipped from phase to phase of a brilliant and gifted experience. The sanity and the clean sincerity that shine through the words of this interview offer a challenge, as well as a fund of sound and common-sense philosophy, to our readers.

THE CHURCH FIELD

CONDUCTED BY R. F. H. JOHNSON

Methodists Organize to Produce Religious Talkies

Production of talking pictures of a religious nature, designed for use in Protestant churches throughout the country, is the aim of a newly organized society called The John Wesley Picture Foundation, officers of which were elected Wednesday, January 27.

Rev. Chester C. Marshall, D.D., assistant director of the Methodist Episcopal Hospital of Brooklyn, is named president. The other officers are Rev. Ralph W. Sockman, D.D., pastor of the Madison Avenue Methodist Episcopal Church, New York City, vice-president; Rev. Christian F. Reisner, D.D., pastor of the Broadway Temple, New York City, second vice-president; Rev. George G. Vogel, D.D., South Orange Methodist Episcopal Church, South Orange, N. J., treasurer; and Rev. James K. Shields, D.D., Newark, N. J., secretary. Eighteen other ministers, prominent in the Methodist Episcopal Church throughout the country, are named on the advisory board. The Foundation will be strictly non-commercial and plans to use the entire income from the distribution of all pictures for the purpose of further production of religious pictures.

The first picture to be produced by the Foundation, which was incorporated in New Jersey on January 7, will be *The Life of John Wesley* and will contain a musical score of songs and hymns written by Charles Wesley, brother of the great religious leader. The author of the scenario is Rev. James K. Shields, D.D., of Newark, N. J., well known for his numerous contributions in the field of religious motion pictures. One of his silent motion pictures called *The Stream of Life* has been shown in more than 3,500 churches in this country. After writing the Wesley scenario, Dr. Shields submitted it for criticism, both as to the question of human interest and historical correctness, to the leading scholars of Methodism, and has received from them their stamp of approval. The production of *The Life of John Wesley* will be made this year.

Following the production of *The Life of John Wesley*, it is planned to produce a picture on the life of Francis Asbury. Pictures to follow this will be a large number of short subjects based on great texts of the Scriptures. Further plans call for the recording in talking pictures of sermons given by outstanding leaders in church life and the production of films on missionary work both in the home and foreign field. All pictures produced by The John Wesley Picture Foundation will be approved by the advisory committee composed of outstanding leaders in the Methodist Episcopal Church.

The board of trustees of the Foundation is composed of the following outstanding leaders in the Methodist Episcopal Church: Rev. Chester C. Marshall, Brooklyn, N. Y.; Rev. George G. Vogel, South Orange, N. J.; Rev. J. S. Ladd Thomas, Germantown, Pa.; Rev. George W. Henson, Philadelphia, Pa.; Rev. Fred Brown Harris, Washington, D. C.; Rev. Fred Winslow Adams, Boston, Mass.; Rev. Ralph W. Sockman, New York, N. Y.; Rev. Ernest F. Tittle, Evanston, Ill.; Rev. Christian F. Reisner, New York, N. Y.; Rev. Edward L. Watson, Baltimore, Md.; Rev. James K. Shields, Newark, N. J.

How Dark Must the Auditorium Be?

A clergyman from Iowa writes in to inquire whether it is necessary to have the church entirely darkened in order to run 16 mm. motion pictures. He states that there are large windows down two sides, with well-made, though not absolutely light-tight shades, and that audiences of 300 to 400 are to be accommodated.

The answer is that the brilliance of the screen image depends upon the inter-relationship of quite a number of factors. One of these, already mentioned by our Iowa friend, is the degree of darkness obtainable in the room where the pictures are to be shown. With modern projection equipment, such as the 400-watt Filmo, for example, this clergyman would experience no difficulty whatever. Here the situation is analogous to the classroom in the school that cannot be made absolutely dark. In fact, educators have found that it is not altogether desirable, from the point of view of class discipline, to make the room pitch-dark. Substantially similar conditions prevail in the Sunday School.

The chief factor, however, is the illumination power of the projector. The size and "speed" of the projection lens is likewise important, newer projectors offering oversized lenses that pass considerably more light than previous types. The design of the lamp used also constitutes a factor not to be overlooked, a very late type consisting of a double row of filaments staggered

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in such a way that the light from the second row fills in the dark spaces inevitably separating the filaments in the front row.

The distance that the projector is removed from the screen affects both the size and brilliance of the picture. The quality of the screen is also important, a beaded screen being preferred especially in extra wide halls where part of the audience must sit at a considerable angle to the screen. The density of the film to be shown is still another factor, amateur film quite often being rather dense, due to partial underexposure.

Projectors generally have 2-inch lenses as standard equipment. At 32 feet this would mean the filling of a 6 foot screen, an all-'round satisfactory combination. Clergymen all over the country are welcoming the recent 16 mm. projector improvements. Rev. H. G. Conger, of the M. E. World Service, wrote of one machine, "It gave a satisfactory 10-foot picture. I was also impressed with its steadiness. A stereopticon could not have projected a slide steadier."

Baptists List Mission Films

The Northern Baptist Convention Board of Missionary Cooperation, 152 Madison Ave., New York, has issued a 40 page catalog of the missionary literature and visual aids distributed by that organization. Twenty-nine motion picture subjects are listed, ranging from one to five reels in length. For 35 mm. films there is a rental charge of $2 plus express both ways. For 16 mm. films there is no charge except for the express. *Burma, China, Africa, India, Japan,* and *Soldiers of the Cross* are some of the interesting subjects.

Seven of the 16 mm. films were taken in the foreign mission field with her own amateur movie camera by Mrs. H. E. Goodman.

Another of the 16 mm. pictures, a two-reeler entitled *University of Shanghai,* is especially interesting at this time. It came from Dr. Herman Liu, president of the University.

Quoting from a recent French school survey the following statement is made in the catalog with regard to motion pictures: "The cinema is one of the best means at our disposal of appealing to the adolescent and adult imagination. What we see with the eye supplements what we read in books and hear with our ears."

Another strong endorsement states: "Every church should own a stereopticon and motion picture projector . . . The picture has no competitor as a method of presenting truth when coupled with proper explanations."

SCHOOL DEPARTMENT

CONDUCTED BY DR. F. DEAN McCLUSKY

Director, Scarborough School, Scarborough-on-Hudson, N. Y.

Pupils Make Own Visual Aids

An account of visual education work at the Wilbur Wright Junior High School in Cleveland in a recent number of *School Topics*, the official magazine of the Public Schools of that city, should prove suggestive to others in the field.

The equipment owned by the school consists of a 35 mm. projector for both silent and talking pictures, a 16 mm. projector, a delineascope, a projector for microscopic slides, and two stereopticons, all arranged on the balcony of the auditorium, where their visual activities are centered.

All departments of the school use the equipment, but the Department of English had fewer bookings for the semester than those for social science and general science, due to the dearth of material for English work. To meet this need, William M. Gregory, Director of the Cleveland Educational Museum, advised the department to make some slides, which suggestion was acted upon.

Their first venture was a set of 35 slides of Treasure Island which were made by photographing and coloring book illustrations. The Treasure Island problem was easily solved but they found very few pieces of literature published with enough illustrations, or good enough illustrations, to use for visual aids. They decided, therefore, to create their own settings and photograph them, choosing four of James Whitcomb Riley's poems as subjects.

After the pupils in an English class studied the costuming and makeup necessary to assume the roles assigned them, they scoured the surrounding country for proper settings and merely transported characters to the chosen location, where they lived again the scenes they depicted so that they may be permanently recorded by the eye of the movie camera or kodak.

Another advantage which this project offers is the opportunity which the teacher has to interest the so-called dull or low I. Q. pupil in literature. In a stage presentation only the bright pupils, possessing some degree of histrionic ability can appear in the cast. As members of the cast for this photographic work, teachers selected some slower pupils from the Z sections, thus giving them an opportunity to "be somebody."

Besides these advantages there is the permanent contribution of the slides which will help the other pupils (and grown-ups, too) to visualize their reading.

The benefits derived by the English Department from making these sets of slides were so obvious that the other departments began to prepare visual education aids, which would help them to solve some of their teaching problems. As a result, the mechanical drawing, mathematics, French, and physical education departments all have projects under way.

Eighth Annual Motion Picture Conference

Interest in more specialized forms of the motion picture is perceptibly growing, as is evidenced by this year's meeting of the National Board of Review of Motion Pictures held January 21 and 22 in New York

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The general topic of the conference was "Special Functions of the Motion Picture in Recreation and Education." A wider application of motion pictures in education and in vocational training was urged by Dr. Louis I. Harris, former Health Commissioner of New York City and a member of the executive committee of the National Board of Review. Speakers on the program of the first day's session were:

Dr. Wallace W. Atwood, President, Clark University: "How the Specialized Motion Picture is Being Developed."

Miss E. Winifred Crawford, Instructor, Visual Education, State Teachers College, Montclair, N. J.: "What the Motion Picture Means to Visual Education."

Mrs. Marguerite E. Schwarzman, Director, Children's Laboratories and Instructor, New York University Institute of Education: "Vitalized Learning in Science."

Miss Rita Hochheimer, Acting Director of Visual Instruction, New York City Board of Education: "The Motion Picture as a Teaching Device in the New York Public Schools."

Leaders of Progressive Education are realizing the value of the motion picture, according to Mrs. Marguerite E. Schwarzman, who told the delegates assembled that "the grade school teacher need no longer flounder helplessly in the intricate maze of facts." She made a plea for this teacher who has been called upon in the past to be a human encyclopedia. "If factual materials and techniques could be organized and simplified for the teacher," she said, "her wild gropings be over and her teaching would become a joyous adventure."

Mrs. Schwarzman stated that motion pictures can play a large part in the interpretation of complicated facts to the young child. The schools realize the power of the educational film and the producers realize the demands of the schools. It remains to bring these two together. Mrs. Schwarzman's strong plea was, first, that more scientific data on the relative value of silent versus sound projection for classroom use be made available through research,—second, that teachers generally be instructed in the simple technicalities of projection apparatus,—and third, that available films be compiled and classified according to subject matter and the present needs of the school curriculum. Such a list might be supplemented monthly much as the latest in literature is made available in such compilations as the Cumulative Index and the Readers' Guide to Periodical Literature. With

educators on their toes, the motion picture can play a big part in providing materials for "Vitalized Learning."

In the evening there was a demonstration at the Fox Private Theatre of specialized films for teaching, with Grace Allen Bangs presiding and Glenn Griswold among the speakers.

Next morning, Professor Mather, of Harvard University, told of "Testing Responses to Experimental Specialized Films" and his conviction that such tests would demonstrate sound films to be a better aid to instruction than any other method of teaching. Professor Mather's address was followed by Mrs. Eva B. Hansl, Associate Editor, Parents' Magazine, on "The Motion Picture and Parent Education"; Mr. F. S. Mathewson, Supt. of Recreation, Union Co. (N. J.) Park Commission, on "The Specialized Use of Motion Pictures in Public Recreation"; and Mrs. Helen F. MacPherson, Chief Juvenile Probation Officer, Hartford, Conn., who advocated, in her talk on "Children and the Motion Picture," that parents see pictures before their children witness them, as "a great many modern pictures plunge children directly into adult life." She declared motion pictures have a greater attraction for children than any other moral force in the community.

Electrical Research Products conducted a demonstration of educational talking motion pictures in the afternoon, with W. A. Bach presiding.

Massachusetts State Visual Groups Meet

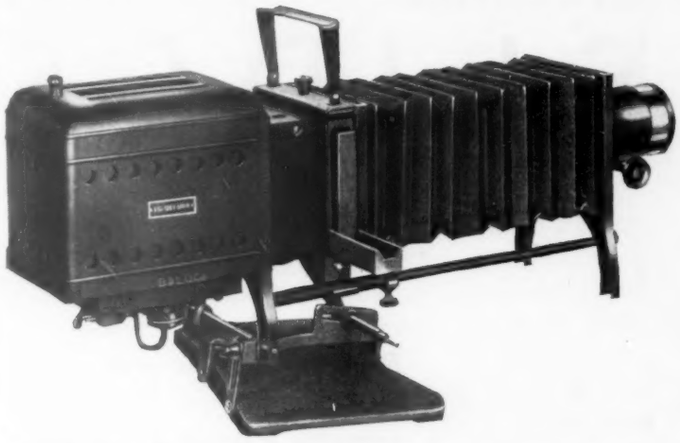
The annual convention of the Massachusetts branch of the National Academy of Visual Instruction and the State Wide Committee on Visual Education was held February 6 at Quincy, under the direction of Abraham Krasker, head of Visual Education in the Quincy schools.

Dr. Howard Lesourd, professor of religious education at Boston University, spoke on "Motion Pictures in Character Education"; Mr. James Collins of Quincy, on "The Use of the Radio and the Public Address System"; and Superintendent James N. Muir, also of Quincy, explained "The Quincy System of Visual Education."

Dr. P. J. Rulon, of the Harvard Graduate school of education, gave an explanation and demonstration of the Harvard University experiment in testing the value of sound motion pictures. Another outstanding demonstration was conducted by Dr. George Rommert of the Biologisches Laboratorium, Munich, Germany, on the "Wonders of an Unseen World."

Sessions in the afternoon featured the ten one-hour classes in various subjects being taught by visual aids —civics, geography, general science and biology, art,

Modern Teaching Methods Demand Modern Teaching Tools



TEACHERS can now bring to the aid of visual instruction, tools as truly modern and effective as the method itself. These tools are Balopticons.

In this select line of Bausch & Lomb instructive instruments the Model BDT fills an important niche. Here are Simplicity, Sturdiness, Even Illumination and Portability built into an instrument of proved teaching value. To one familiar with visual instruction problems these are real advantages. The BDT is a product of B & L skill and precision in every optical and mechanical part. Long life is thus assured . . and economical operation.

The adjustable tilting base allows the Balopticon to be conveniently operated from any handy support, while the projected image remains symmetrical, clear and bright even though the Balopticon be perched at an angle. It can be used with equal effectiveness in the classroom, lecture hall or small auditorium.

The instrument projects lantern slides, or with proper attachments, films or mounted microscopic specimens.

Because the modern school needs Balopticons we suggest that you write today for complete information. Bausch & Lomb Optical Company, 688 St. Paul St., Rochester, New York.

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literature, foreign language and four elementary school classes.

The convention closed with the inspection of exhibits, which included the display of helpful aids in the classroom such as pictures, models, maps, exhibits, and sand tables; literature on the subject of visual education; and a typical visual education office.

The Sound Film in Education

(*Concluded from page* 41)

learning evidenced by the different groups. The results were as follows:

	Average gain made		
	By the lowest fourth	By the middle group	By the highest fourth
Boys (50)	77.3	84.0	93.6
Girls (47)	85.7	94.5	87.8

When a dispassionate survey is made of the benefits accruing to education in general by the use of the sound film, the following points become apparent:

The sound film broadens the field of study by making possible the presentation of material which otherwise would not be available.

The student is able to employ both eye and ear. No subtitles or other interruptions divorce his attention from the subject material.

The standardization of study offered is of infinite benefit to the schools of the nation, by assuring educators that quality of content is present in the product used.

The subject is presented in a graphic manner which challenges the interest of the student.

The use of sound film is advocated in connection with highly specialized subjects such as Medicine and Science since it does not demand the stocking or purchase of expensive and seldom used apparatus. Furthermore, it assures the student of the highest quality of instruction in the particular branch of learning which he is studying.

Sound film, in no way, minimizes the importance of the teacher to the student, rather it emphasizes the necessity for mature guidance. The problems and material covered in the sound film become a topic of conversation which is covered by class routine. The sound film stimulates the student and inspires him to further research along the lines covered by the subject he has just seen and it is a teacher who will and must supervise these efforts and answer such questions as will be brought up. Nor does sound film over-reach the prescribed boundaries of the text book field, rather let us assume that the sound film acts only as an adjunct to the material covered by the text. The film provides a background against which the text book and teacher will form a living foreground, the recollection of which deeply etch themselves into the perceptive senses of the student. Unlike the radio, sound film may be run and re-run until the last iota of pedagogical assistance has been extracted.

Inanimate pieces of metal and reels of celluloid offer such potentialities that the educator of the day cannot afford to overlook them. The fear that the machine era in which we live will stifle the creative and cultural tendencies of modern youth is to be branded as utterly false for as the distinguished head of Horace Mann School, Dean Rollo G. Reynolds said in his annual report, "A good school will hand on to its children control over machines in order that these soulless machines may free the human soul to build for itself a better world in which to live."

AMONG THE PRODUCERS

Where the commercial firms — whose activities have an important bearing on progress in the visual field — are free to tell their story in their own words. The Educational Screen is glad to reprint here, within necessary space limitations, such material as seems to have most informational and news value to our readers.

Several New Stereopticons with Heat Control

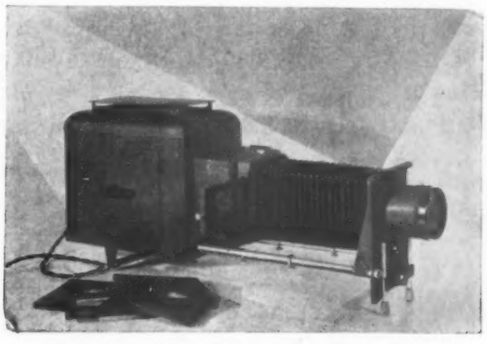
A. O. POTTER

SPENCER Lens Company have recently introduced a new series of stereopticons, known as their Color Plate and Auditorium Delineascopes.

They have eliminated the water cell with its objectionable features and the heat absorbing glass which breaks and which destroys color values, and also absorbs light.

A motor driven blower is placed in the lamphouse and a blast of cold air is conducted to the condenser chamber and to the slide. This protects both condensers and slide from breakage and color plates from damage by excessive heat. Natural color plates—such as Agfa—may be projected any reasonable length of time with perfect safety.

One particular advantage of this method of cooling is the fact that the illumination is not cut down, as is done by other methods, therefore they give exceptional brilliancy on the screen. This is particularly valuable in the projection of natural color plates because of their density and of hand colored plates because of the expense of coloring.



Model JK

Another advantage is the accommodation of various sizes of plates from 4.5 x 6 cm. to 5 x 7 inches, including standard lantern slide sizes. Because of the expense of natural color plates, many users resort to small sizes as a matter of economy. Many make their color plates as large as 5 x 7 inches and still want to project them. These new instruments take care of these conditions. This is done by the aid of a special slide carrier, accommodating adapters or kits of various sizes. These adapters may be put in the carrier so that the long dimension of the plate may be horizontal or vertical.

Three different models are offered. Model DK has a 500-Watt lamp, giving the illumination of the standard classroom models, with the cooling device added and adapters provided to accommodate plates from 4.5 x 6 cm. to 3¼ x 4¼ inches.

Model JK, herewith illustrated, has a 1000-Watt lamp, 6" diameter condensers, cooling device and adapters accommodating plates from 4.5 x 6 cm. to 4 x 5 inches. Model LK has a 1000-Watt lamp, 8 inch condensers and adapters accommodating plates from 3¼ x 4 inches to 5 x 7 inches. Both of these large models are excellent instruments for large auditoriums where a long throw is necessary and a brilliant picture is desired.

They will satisfy many needs, not heretofore taken care of. You can now protect your valuable natural color or hand colored slides from excessive heat and project them with perfect safety and because of the fact that we have used a heat control that does not cut down the light or change its tone in any way, you can reproduce pictures in their exact natural colors. And they are not large unwieldy instruments. While sturdily built, they are very compact and can be easily transported. This is of especial importance to the travelling lecturer.

An attractive circular, giving more descriptions of these new color plate Delineascopes, may be had by writing to Spencer Lens Company, Buffalo, N. Y.

Victor Offers New Complete Series of Projectors

Victor Animatograph Corporation, Davenport, Iowa, announces that the New Model 7 Victor Ciné Projector is now available in a complete series which embraces the following equipments: Model 7 Regular, which is equipped with 300 Watt "No Resistance" lamp (100-120 Volt); Model 7G with 50-60 cycle A. C. Transformer built into base to permit use of high intensity 250 Watt-20V. lamp; Model 7R with No. 11 variable resistance lamp rheostat mounted with swivel post on projector base. This Model has a wide range

(*Concluded on page* 64)

HERE THEY ARE!

A Trade Directory for the Visual Field

FILMS

Bray Pictures Corporation (3, 6)
729 Seventh Ave., New York City.

Carlyle Ellis (1, 4)
53 Hamilton Terrace, New York City
Producer of Social Service Films

Columbia Pictures Corp. (3, 6)
729 Seventh Ave., New York City
(See advertisement on page 58)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Teaching Films, Inc. (1, 4)
Rochester, N. Y.

Edited Pictures System, Inc. (1, 4)
130 W. 46th St., New York City

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

Mac Callum, Inc. (3, 6)
132 S. 15th St., Philadelphia, Pa.

Modern Woodmen of America (1, 4)
Rock Island, Ill.

Pinkney Film Service Co. (1, 4)
1028 Forbes St., Pittsburgh, Pa.

Ray-Bell Films, Inc. (3, 6)
817 University Ave., St. Paul, Minn.

Society for Visual Education (1, 4)
327 S. LaSalle St., Chicago, Ill.
(See advertisement on inside back cover)

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Pictures Corp. (3)
730 Fifth Ave., New York City
(See advertisement on page 34)

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y. M. C. A. Motion Picture Bureau (1, 4)
347 Madison Ave., New York City
300 W. Adams Bldg., Chicago, Ill.

School Presentations
Bookings arranged either on a rental or percentage basis. Complete talking picture equipment and suitable film subjects supplied. Write for details.
TALKING PICTURE PRODUCTS CO.
666 Lake Shore Drive, Chicago

MOTION PICTURE MACHINES and SUPPLIES

Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago, Ill.
(See advertisement on inside front cover)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Edited Pictures System, Inc. (1)
130 W. 46th St., New York City

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

Mac Callum, Inc. (3, 6)
132 S. 15th St., Philadelphia, Pa.

Regina Photo Supply Ltd. (3, 6)
1924 Rose St., Regina, Sask.

Talking Picture Products Co. (2)
666 Lake Shore Drive, Chicago.

United Projector and Film Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Victor Animatograph Corp. (6)
Davenport, Ia.
(See advertisement on page 34)

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

SCREENS

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Eastman Educational Slides
Iowa City, Ia.

Edited Pictures System, Inc.
130 W. 46th St., New York City

Ideal Pictures Corp.
26 E. Eighth St., Chicago, Ill.

International Artprints
64 E. Lake St., Chicago, Ill.
(See advertisement on page 60)

Keystone View Co.
Meadville, Pa.
(See advertisement on page 57)

James C. Muir & Co.
10 S. 18th St., Philadelphia, Pa.

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on inside back cover)

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 35)

Stillfilm Inc.
1052 Cahuenga Ave., Hollywood, Cal.
(See advertisement on page 58)

University Museum Extension Lecture Bureau
10 S. 18th St., Philadelphia, Pa.

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

STEREOGRAPHS and STEREOSCOPES

Keystone View Co.
Meadville, Pa.
(See advertisement on page 57)

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.
(See advertisement on page 59)

E. Leitz, Inc.
60 E. 10th St., New York City

James C. Muir & Co.
10 S. 18th St., Philadelphia, Pa.

Regina Photo Supply Ltd. (3, 6)
1924 Rose St., Regina, Sask.

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Stillfilm Inc.
1052 Cahuenga Ave., Hollywood, Calif.
(See advertisement on page 58)

Williams, Brown and Earle Inc.
918 Chestnut St., Philadelphia, Pa.

REFERENCE NUMBERS

(1) indicates firm supplies 35 mm. silent.
(2) indicates firm supplies 35 mm. sound.
(3) indicates firm supplies 35 mm. sound and silent.
(4) indicates firm supplies 16 mm. silent.
(5) indicates firm supplies 16 mm. sound.
(6) indicates firm supplies 16 mm. sound and silent.

THE EDUCATIONAL SCREEN SERVICE BUREAU

THE EDUCATIONAL SCREEN offers on this page a helpful service. Information on sources of supply for the items listed below will be furnishcd our readers on request. Fill out the coupon and mail.

(Note that sources for some of the equipment listed are given in the Trade Directory on the opposite page.)

A

Accoustical installations
Adapters, mazda
Advertising projectors
Amplifiers
Arc lamps, reflecting
Arc regulators

B

Batteries
Blackboards
Booths, projection
Bulletin boards, changeable

C

Cable
Cabinets
Cameras
Carbons
Cases, film shipping
Cement, film
Charts
Chairs, theatre
Condensers
Controls, Volume

D

Dimmers
Draperies
Dynamic Speakers

E

Electric power generating plants
Exhibits

F

Film cleaning machines
Film rewinders
Film slides
Film splicing machines
Film strips
Films, Educational
Films, Religious
Films, Entertainment
Films, Sound
Filters
Fire extinguishers
Fireproof curtains
Flares
Footlights
Fuses

G

Generators
Globes
Graphs
Gummed Labels

H

Horns

I

Ink, pencils for slides

L

Lamps, incandescent projection
Lamps, high intensity
Lamps, reflecting arc
Lenses
Lights, spot
Loud Speakers

M

Maps
Map slides
Mazda projection adapters
Mazda regulators
Microphones
Microphone attachments
Microscopes
Micro projectors
Motors, electric
Motor generators
Motors, phonograph
Motion picture cable

N

Needles, phonograph

O

Opaque projectors

P

Phonograph turntables
Photo-electric cells
Pictures, Prints
Posters
Projectors, lantern slide
Projectors, motion picture
Projectors, opaque
Projectors, portable, (16 mm.)
Projectors, portable, (35 mm.)
Public Address Systems

R

Rectifiers
Records
Record cabinets
Recording, electrical
Reflectors
Regulators, mazda
Reels
Reel end signals
Rheostats

S

Screen paint
Screens
Slides, lantern (glass)
Slides, film
Slide making outfits
Slide mats
Shades
Shutters, metal fire
Speakers, dynamic
Spotlights
Stage lighting equipment
Stage lighting systems
Stage rigging
Stage scenery
Stereographs
Stereopticons
Stereoscopes
Stillfilm

T

Talking equipment (35 mm.)
Talking equipment (16 mm.)
Title Writers
Tone Arms
Tripods
Turntables, phonographs

SERVICE BUREAU, THE EDUCATIONAL SCREEN,
64 East Lake St., Chicago, Ill. Date.....

Gentlemen: I should like to receive reliable information on sources of supply for the following items:

.....

.....

Remarks .....

Name .....Business or Profession.....

City .....State .....

Among the Producers

(*Concluded from page* 61)

of lamp interchangeability as it accommodates (on either Alternating or Direct Current) the 250W.-50V. 375W.-75V. and 165W.-30V. high intensity lamps, as well as the regular 100-120 Volt 200 Watt and 300 Watt lamps.

Outstanding among the new features offered in the Model 7 Series is an improved optical system which affords much better illumination, regardless of the type of lamp used. A wider speed range and more quiet operation are other improvements.

The Model 7 Regular and the Model 7G are equipped with the attractive rectangular base which previously was supplied only on the Model 3G. The Model 7R has the pedestal base to permit swinging the rheostat in under the projector body when placing the machine in its carrying case.

The well known and desirable Victor features such as the adjustment shutter which is a constant safeguard against "jumpy" pictures, the automatic film strip which affords protection against film damage and other equally important refinements are all embodied in the Series.

Wholesale distribution of Victor Projectors is through the Wholesale Division of National Theatre Supply Company which has factory service sales branches in all principal cities of the U. S. A.

RCA Announces 16mm Sound Projector

RCA Photophone has just introduced its new 16 mm. sound-on-film projector, developed in association with the RCA Victor Company. A recent demonstration of the machine showed it to be a compact equipment especially suited to the requirements of the industrial field, schools, colleges, clubs and churches. The appearance of this Junior Portable projector, so-called to distinguish it from the 35 mm. portable which has been on the market for more than a year, makes possible the presentation of sound pictures in places that would be inaccessible to 35 mm. apparatus.

The equipment, consisting of a projector-amplifier unit and a small loudspeaker unit, is operated from any 110-volt, 50 or 60-cycle A. C. lighting circuit. The projector-amplifier unit is 14½ inches long, 13¼ inches high, 8¼ inches wide and weighs 43 pounds. The equipment is not removed from its case during operation, the interior mechanism being accessible for adjustments, replacement of radiotrons, lamps and photocell.

The projector is equipped with an optical system which projects pictures varying in size from 22 inches wide to 16 inches high at a distance of 10 feet to 67 inches wide by 50 inches high at a distance of 30 feet. The picture size recommended by RCA for good illumination is 52 inches wide by 39 inches high, which is obtained at a projection distance of 23 feet.

The loudspeaker is mounted in an individual carrying case which is 19 inches long, 16 inches high, 9½ inches wide and weighing 21 pounds exclusive of film cases, reels and film. Space is provided in the case for the storage of eight film cans for 400-foot film reels. This loudspeaker is of the flat baffle type, with the dynamic speaker unit mounted behind the screened opening in the front of its carrying case. A sufficient volume of sound is available to meet the requirements of rooms having a cubic content up to 10,000 feet. The 16 mm. film employed for reproduction contains sprocket holes on one side only instead of both sides as are required on 35 mm. film. When threaded in the projector, the sprocket holes are on the right side of the film. The sound track, barely discernible to normal sight, is at the left.

Movies Record Earthquake Vibrations

How a Filmo movie camera was employed in the Philippines for making a motion picture record of the needle movements of an instrument constructed for measuring earthquake vibrations, is interestingly told by I. A. Terry of the engineering department of the General Electric Company.

"We made an instrument, the vibration mechanism of which was a Starrett dial test indicator held rigidly to the frame. The dial was covered with a dull finished black paper, and the needle was given a high polish on the tip. The glass was replaced by a deeply blackened metal sheet, with a small slit in it, covering an arc of about 20 scale divisions (mils.) A beam of light was focused on the slit from a motion picture projector, with the light beam cut down by means of an aperture in a wooden block between the source of light and the dial test indicator. By this means the slit only of the indicator was illuminated.

"The Filmo moving picture camera was used for recording the needle motion, the indicator being adjusted to such an angle that a perfect reflection of light to the camera from the needle was obtained, with the needle in the center of the slit. The camera was modified to give a continuous, instead of an intermittent, film motion. The plane of the camera was set so that the plunges of the needle would traverse the width of the film."

The camera, states Mr. Terry, was timed during several test runs and found to measure up to the required standard of accuracy. The resultant movies are highly valuable for seismic study.